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ABSTRACT

A method is presented which provides for increased subject involvement in the research design along with greater protection of the subjects' rights of privacy. An experimental analysis revealed that with increased motivation subjects took longer to complete the questionnaire; obtained higher, and less socially desirable, Dogmatism scores; and were less likely to manifest a response style which was found to be a function of answer sheet configuration. However, even with increased motivation, experimenter effects were found to produce a significant bias. Implications for attitude assessment research in the military are discussed. (Author)

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AN APPROACH TO ATTITUDE ASSESSMENT IN A MILITARY SETTING[1]

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Abstract. A method is presented which provides for increased subject involvement in the research design along with greater protection of the subjects' rights of privacy. An experimental analysis revealed that with increased motivation subjects took longer to complete the questionnaire; obtained higher, and less socially desirable, Dogmatism scores; and were less likely to manifest a response style which was found to be a function of answer sheet configuration. However, even with increased motivation, experimenter effects were found to produce a significant bias. Implications for attitude assessment research in the military are discussed.

The continuing concern for respecting subjects' rights of privacy is particularly important when using military personnel as subjects. The basic authority structure of the military may provide an added degree of influence or pressure for subjects to answer items they might otherwise leave blank. Methods need to be employed to offset this influence. This research presents a method designed to accomplish this along with increasing subject involvement in the assessment process. An experimental analysis of the effects of this increased motivation on scale scores, response style, experimenter bias, scale reliability, and the use of different answer sheet configurations is presented.

One of the major problems facing researchers using written questionnaires is the unmotivated respondent who either fails to respond or, when he does, gives answers which are manifestations of carelessness and disinterest rather than basic attitudes or beliefs. While the use of anonymous questionnaires has traditionally been employed to increase candor, it provides a condition of relatively low subject involvement, precludes comparisons with other data on the subjects, and impedes follow-up research. The signed questionnaire increases personal involvement but may suffer from distortions due to social desirability or distrust of the expressed aims of the research. While the literature on the effects of the two approaches is mixed (see Hamel & Reif, 1952; Rosen, 1960), it does appear the two procedures can lead to different results.

Alternative procedures have sometimes been employed involving the surreptitious identification of subjects for data gathered under supposedly anonymous conditions. Not only do these techniques raise ethical questions, but they also may increase distrust among an already suspicious subject population. Recent attempts to resolve this dilemma have been to appeal to

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[1]The views expressed herein are those of the author and do not necessarily reflect the official views of the Air Force Academy or the Department of Defense.

the subject beforehand, attempting to increase his involvement by explaining the general aims of the research, insuring confidentiality, and explaining that since inventories may contain "personal" and "controversial" material, one should think carefully before completing them (Lovell, 1967). However, just exactly what does "personal" and "controversial" mean? Some respondents may agree or refuse to participate because of misinterpretations of what this actually means or a belief that they will not receive socially undesirable scores. Consequently it is doubtful that such a procedure provides the respondent with sufficient information to make an informed decision and precludes analysis of volunteer effects. An alternative procedure would be to give the respondent feedback on what was measured and how he scored on the measures before he was asked to sign the questionnaire. The method presented below suggests such a procedure with the added benefits of increased subject motivation and a provision for analysis of volunteer effects. But increased motivation raises questions as to its effects on response styles, experimenter bias, and assessment of socially undesirable personality factors.

With respect to response style, this study focussed on a response style associated with different answer sheet configurations. Pilot research using answer sheets with the high score category (strongly agree) to the right appeared to produce higher scores when compared to a condition where responses were written alongside each item. This suggested a type of response style where subjects favored the right-hand side of the answer sheet when responding under conditions of anonymity. To investigate the possibility that this effect was a function of a low level of motivation, subject motivation was varied along with four variations in answer sheet configuration.

The following hypotheses were investigated: (1) A right-hand response style will elevate scores on answer sheets with the high score category to the right, attenuate scores with the high score category to the left, and have no effect on a counterbalanced configuration. (2) As subject motivation increases, the right-hand response style will decrease and time to complete the questionnaire will increase. (3) The combined conditions of anonymity and feedback will encourage candor and lead to higher, and less socially desirable, scores. Finally, a condition was added involving the use of a personal briefing by instructors to provide for an analysis of experimenter bias at high levels of subject motivation.

Method

Subjects. All Ss (N=480) were freshmen and sophomores at the Air Force Academy enrolled in a required introductory psychology course.

Procedure. In a completely counterbalanced design, 30 Ss were assigned to each of 16 cells in a 4 X 4 design. All cells were equated on a measure of intellectual ability (Verbal Aptitude Scores on the College Board Examinations); Ss used the same textbook, took basically the same examinations, and were assigned grades based on their standing relative to all cadets enrolled in the course. Instructors were randomly assigned to the 16 cells, and Ss completed Rokeach's 40-item Dogmatism scale under four conditions of motivation. In condition 1, the scale was completed anonymously without a promise of feedback. All instructions were written on the questionnaire itself and instructor involvement was minimal. In condition 2, the same procedure was

followed except the written instructions asked subjects to place their military serial numbers on the answer sheet. In condition 3, the written instructions explained an anonymous-feedback method where each S picked a four-digit number at random and recorded it on his answer sheet. Answer sheets were scored and returned using the four-digit number known only to the S. At this time a briefing was conducted explaining what the score represented along with normative data on cadet and civilian college populations. All Ss were cautioned that results should be viewed tentatively due to imperfect scale validity and the possibility of their having made mistakes in the recording of answers. It was at this time that the purposes of the research were explained and Ss were asked to voluntarily record their serial numbers on the answer sheets. Thus, before signing the questionnaire, Ss knew what had been measured, how they scored, and how the results were to be used. Finally, condition 4 was designed to maximize instructor effects while retaining all other elements of condition 3. In addition to providing written instructions, each instructor explained the anonymous-feedback system and solicited cooperation indicating that he was personally involved in the research.

Four different answer sheet configurations were used: "strongly agree" to the left, "strongly agree" to the right, a "counterbalanced" pattern where the "strongly agree" category was alternated between left and right, and a "write-in" configuration where responses were recorded directly on the questionnaire itself.

Results and Discussion

As indicated in Table 1 and in support of hypothesis 1, the difference between cells 1A and 1B was highly significant ($p < .01$) suggesting the

Table 1

Means on Rokeach's 40-Item Dogmatism Scale--Four Levels of Motivation & Four Types of Answer Sheets (N=480)

Type of Answer Sheet	Motivation condition (1) Anon	(2) Signed	(3) Anon +Feedback	(4) Anon +Feedback +Briefing
(A) Agree left	127.0	130.4	144.0	128.9
(B) Agree right	137.6	129.4	136.0	128.9
(C) Counterbalanced	130.9	131.3	138.4	133.9
(D) Write-in	133.5	135.1	141.4	125.7
Column means	132.3	131.5	140.0	129.4
Minutes to complete	10.96	10.99	11.64	12.38

agree-left configuration yielded lower scores, the agree-right higher scores, and both counterbalanced and write-in configurations yielded scores in between the two. Consistent with hypothesis 2, as motivation increased, this type of response style disappeared--in fact, the difference between the agree-left and agree-right configurations was significant only in the anonymous no-feedback condition. Also, as hypothesized, an analysis of variance between the four motivation conditions and time to complete the questionnaire produced a significant F-ratio ($p < .05$). Completion times progressively increased across motivation conditions, and the difference between conditions 1 and 4 was highly significant ($p < .01$). With respect to hypothesis 3, an analysis of variance between motivation level and Dogmatism score produced a highly significant F-ratio ($p < .001$). Comparison of the column means reveals that while the use of anonymous or signed questionnaires made little difference, the anonymous feedback condition (3) yielded significantly higher ($p < .01$) and less socially desirable Dogmatism scores.[2]

When experimenter effects were maximized in condition 4, scores were significantly lower ($p < .01$) than in condition 3. This suggested that even under conditions of high involvement, subjects may have completed the questionnaire in a manner in which they felt their instructors would approve. To test this notion, Ss anonymously rated their instructors on a locally developed dogmatism scale (see Kaats & Thompson, 1968). Examination of these ratings revealed that all but one instructor was perceived as being nondogmatic, suggesting that, as a group, instructors in condition 4 may have provided an influence toward lowered scores. Furthermore, when the subject means for sections where instructors were rated "high" on dogmatism were compared with those sections where instructors were rated low, the average score on the Rokeach scale was significantly ($p < .01$) higher in the "high" group than in the "low" group. Thus, support was provided for the view that subject Dogmatism scores were influenced by the level of dogmatism seen in the instructor.

Calculation of the average scale reliabilities for each motivation condition revealed that both of the feedback conditions (3 & 4) yielded lower reliability coefficients than either of the no-feedback conditions (1 & 2). Since the Rokeach scale has no reversed items, this may suggest that with increased involvement, subjects made more differentiations between items in this domain. Finally, an analysis of volunteer effects was possible since the questionnaire was completed before Ss were asked to volunteer their names. Only 2% refused to sign the answer sheet and, with respect to mean scores, they were no different from those who did sign.

These results would appear to question the wisdom of employing anonymous/no-feedback conditions in attitude assessment research and offer an alternative method with added ethical benefits and increased subject involvement.

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[2]In research not reported here both dogmatism and items on the Rokeach scale were rated by cadets as being socially undesirable.

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